DECLARATION OF TRANSLATOR

I, Maho KASEKI, c/o the Inoue & Associates of 3rd Floor, Akasaka Habitation Building, 3-5, Akasaka 1-chome, Minato-ku, Tokyo, Japan do solemnly and sincerely declare that I am conversant with the Japanese and English languages and that I have executed with the best of my ability this partial translation into English of Unexamined Japanese Patent Application Laid-Open Specification No. 2002-79600, and believe that the translation is true and correct.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements jeopardize the validity of the application or any patent issued thereon.

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(Date)

Maho KASEKI

Partial English translation of Unexamined Japanese Patent Application Laid-Open Specification No. 2002--79600

(1) Head of Laid-Open Gazette:

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72 Inventor: Toshiaki Yoshihara

(2) At page 2, column 1, lines 1 to 8:

[Scope of claims for patent]

[Claim 1] An antireflection laminate comprising a substrate made of glass, a plastic or the like, and having formed on at leas one surface thereof a low refractivity composition coating having a nano-porous structure, wherein said low refractivity composition coating has the following characteristics: a haze of 1 % or less, a ten-point mean roughness (Rz) of 100 nm or less, and an arithmetical mean roughness (Ra) of 2 to 10 nm, each of Rz and Ra being as measured with respect to a micro-region having a size of 5 μm × 5 μm.

(3) At page 3, column 3, lines 33 to 43:

[0013] <Function> According to the present invention, a low refractivity composition coating (comprising inorganic microparticles and a binder) is formed so as to have a surface roughness wherein the ten-point mean roughness (Rz) is 100 nm or less and the arithmetical mean roughness (Ra) is 2 to 10 nm, each being as measured with respect to a micro-region having a size of 5 μm × 5 μm using an atomic force microscope. Such surface roughness enables the formation of a low refractivity layer having a nano-porous structure wherein minute concavo-convex portions of nanometer size are formed, while maintaining the transparency (low haze) without being influenced by light-scattering. By the formation of a nano-porous structure having concavo-convex portions of nanometer size, air is incorporated into the coating to thereby lower the apparent refractivity of the coating.

(4) At page 5, column 8, line 47 to page 6, column 9, line 11:

[0031]<Example 1> .....

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The obtained coating composition was applied to the substrate by a bar coater. Then, the coating composition was dried at 100 °C for 1 minute using a dryer, followed by curing by irradiation of 1,000 mJ/cm^2 of ultraviolet ray using a high-

pressure mercury-vapor lamp, such that the concentration of the coating composition was appropriately adjusted so as to control the optical thickness (nd = refractivity (n) × coating thickness (d) (nm)) of the resultant coating to nd = 550/4nm, thereby obtaining a test sample. The obtained test sample as evaluated by the methods described below. The results are shown in Table 1.

(5) At page 7, Table 1:

		Ex.1	Ex.2	Ex.3	Comp. Ex.1	Comp. Ex.2
Amounts (part by weight)	A	-	30	-	70	-
	B	60	30	-	-	-
	C	-	-	80	-	-
	D	40	40	20	30	40
	E	-	-	-	-	60
Surface roughness Rz (nm) Ra (nm)		 70 7	 30 4	 50 5	 10 1	 95 12
Reflectance (%)		1.2	1.5	1.5	2.9	1.3
Haze (%)		0.7	0.4	0.5	0.3	4.5
Adhesion		100	100	100	100	90
Pencil Hardness		2H	3H	3H	H	H
Abrasion resistance		Slight scratch	No scratch	No scratch	Large number of scratches	Extremely large number of scratches

(6) At page 7, column 11, lines 23 to 30:

[0039] As can be seen from Table 1, in each of Examples 1 to 3, the reflectance is as low as 1.5 % or less, and the strength (in terms of adhesion, hardness and abrasion resistance) is also excellent. On the other hand, in Comparative Example 1 in which only a silica sol having a small average particle size was used, the surface of the coating was smooth (Ra was 1 nm), and the refractivity could not be lowered (refractivity was 1.46). Further, in Comparative Example 2 in which a silica sol having a large average particle size was used, the surface of the coating was rough so that the reflectance was low; however, the coating was clouded and the haze thereof was as high as 4.5 %. Further, it was also found that the coating had a poor abrasion resistance.